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(पहला पुनरीक्षण)

Indian Standard

REHABILITATION EQUIPMENT – METAL TRIPOD AND TETRAPOD STICKS – SPECIFICATION

(First Revision)

UDC 615·477·27

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

December 1990 **Price Group 2**

Artificial Limbs, Rehabilitation Appliances and Equipment for Disabled Sectional Committee, MHD 10

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards on 15 May 1990 after the draft finalized by the Artificial Limbs, Rehabilitation Appliances and Equipment for Disabled Sectional Committee had been approved by the Medical Equipment and Hospital Planning Division Council.

This standard was first published in 1972. In this revision, the requirements of material for steel tubes and some of the dimensions have been changed.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

REHABILITATION EQUIPMENT – METAL TRIPOD AND TETRAPOD STICKS – SPECIFICATION

(First Revision)

1 SCOPE

1.1 This standard specifies dimensional and other requirements for metal adjustable tripod and tetrapod sticks.

2 REFERENCES

2.1 The following Indian Standards are necessary adjuncts to this standard.

IS No.	*Title*
1068 : 1985	Specification for electroplated coatings of nickel plus chromium and copper plus nickel plus chromium on iron and steel (*second revision*)
1378 : 1987	Specification for oxidized-copper finishes (*third revision*)
2039 : 1981	Specification for steel tubes for bicycle and allied purposes (*first revision*)
4454 (Part 2) : 1975	Specification for steel wires for cold formed sprigs : Part 2 Oil hardened and tempered spring steel wire and valve spring wire—unalloyed (*first revision*)
5150 : 1969	Specification for rubber tips for crutches and walking sticks

3 TERMINOLOGY

3.1 Tetrapod Stick, a stick having four legs.

3.2 Tripod Stick, a stick having three legs.

4 SHAPE AND DIMENSIONS

4.1 The shape and dimensions of tripod and tetrapod sticks shall be as shown in Fig. 1.

5 MATERIAL

5.1 Framework

The framework of tripod and tetrapod sticks shall be made of ERW steel tubes or aluminium alloy seamless tubes having an outer diameter of 25·0 mm with a wall thickness of 1·2 mm for ERW steel tubes and 2·0 mm for aluminium alloy seamless tubes. The ERW tubes shall conform to IS 2039 : 1981.

5.2 Spring for Locking Arrangement of the Height Adjusting Device

The spring shall be made of spring steel wire conforming to Grade 3 of IS 4454 (Part 2) : 1975 and shall have an oxidized copper finish conforming to IS 1378 : 1987. The spring shall be hardened and tempered to give a hardness of 650 to 750 HV.

5.3 Hand Grip

The hand grip shall be made of suitable plastic material or nylon.

5.4 Ferrules

The ferrules shall be made of polyurethane conforming to IS 5150 : 1969.

6 CONSTRUCTION

6.1 The sticks shall be fabricated by welding base members to the outer telescopic member.

6.2 The handle shall be constructed as shown in Fig. 1.

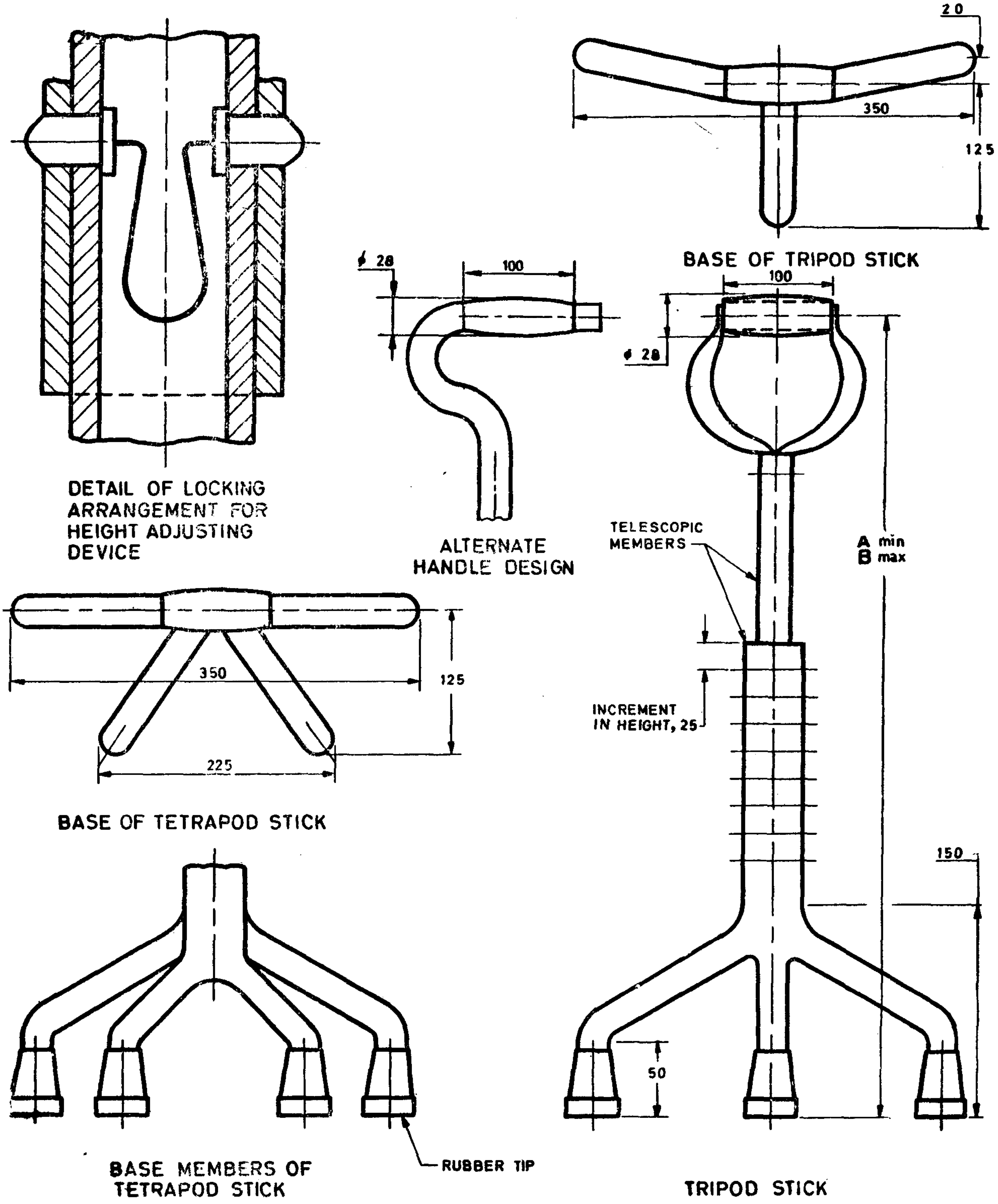
6.3 The hand grip shall be securely fitted to the handle by push fitting after applying epoxy glue to ensure firm fitting. It shall have grooves to provide a firm grip.

6.4 The inner telescopic tube shall be an easy moving fit in the outer tube and not a loose fit.

6.5 The holes for adjustment of height shall be precision punched. The locking arrangement of the height adjusting device shall be positive.

6.6 When the stick is made to stand on a plane surface, all the feet shall touch the surface. There shall be no wobbling. The outer telescopic tube shall be in vertical position.

6.7 The welding shall be sound and clean without any sharp edge.



Size	*A*	*B*	Weight with Rubber Tips, kg
	±50	±50	±5 percent
Small	500	700	1·10
Large	700	900	1·80

All dimensions in millimetres.

FIG. 1 METAL TRIPOD AND TETRAPOD STICKS

6.8 The inner feet of tetrapod or tripod shall not obstruct the movement of the patient.

7 WORKMANSHIP AND FINISH

7.1 All steel parts shall be either painted or electroplated as required by the purchaser.

7.2 Prior to painting, all parts shall be degreased, rust proofed and suitably protected by an anticorrossive primer, and then finished by spraying stoving enamel or air drying enamel of desired shade. The finished paint shall be hard and shall not readily chip or flake.

7.3 Electroplating shall be of chrome over nickel in accordance with service grade 2 of IS 1068 : 1985.

7.4 Aluminium framework shall be anodized.

8 TESTS

8.1 Stability Test

Place the stick (with length adjusted to maximum) on an inclinable plane. The angle of inclination at which the stick becomes unstable shall not be less than 6°.

8.2 Load Test

Place the stick (with length adjusted to maximum) on a plane surface. Apply gradually a vertical load of 100 kg at the centre of the hand grip. The behaviour of locking arrangement of height adjusting device of the stick shall be examined before and after the test, and it shall not get damaged or become insecure as a result of the test.

9 MARKING

9.1 Each tripod and tetrapod stick shall be marked with the following:

a) Indication of the source of manufacture,

b) Size of the stick,

c) Batch No., and

d) Date of manufacture.

10 PACKING

10.1 The packing of tripod and tetrapod stick shall be done as agreed to between the purchaser and the supplier.

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